TowerFeed™ for the HP LaserJet 9000

Installation and User's Guide

Rutishauser

USER'S MANUAL

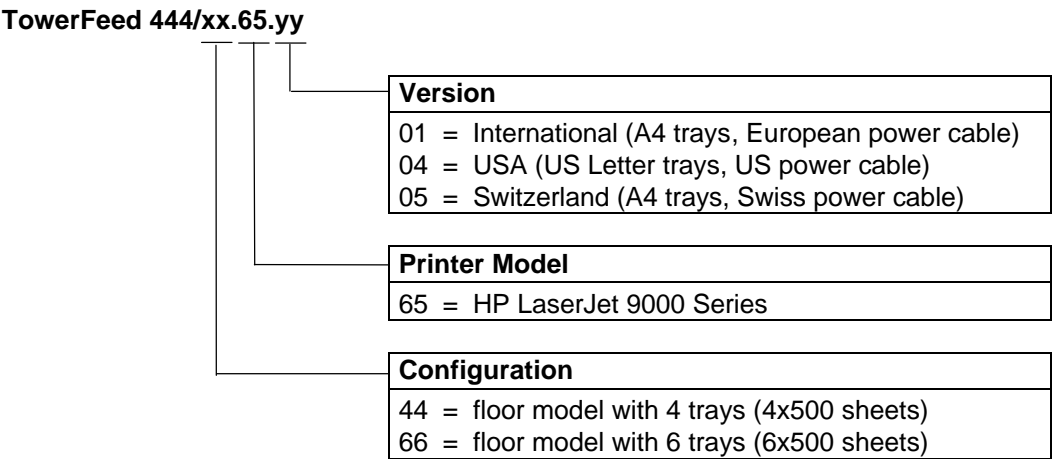**TowerFeed™ 444 for the HP LaserJet 9000 Series**

PREFACE

Congratulations! You selected TowerFeed, a superior sheet feeder specifically designed by Rutishauser Data AG in Switzerland in collaboration with HP USA, to extend the paper handling capabilities of the HP LaserJet 9000 printer.

The TowerFeed Option offers new possibilities. You can

- **select from up to 9 different paper types directly from your workstation.**
- **print extra copies instead of going to the copier to make copies.** You get the better copies and you can color code document copies to clearly identify a copy. The color already defines the addressee and you will save the marking of the copies.
- **realize an attractive alternative to the multi-part forms printed on conventional impact printers.** You will get better copies, raise the flexibility and you can save cost for expensive preprints and chemical papers.

We encourage you to read this manual carefully to ensure correct installation and reliable operation. While installing TowerFeed, or whenever an unclear situation arises, please also consult the user's manuals of your HP LaserJet 9000 printer, your computer system, your application software and your network software.

The name TowerFeed is generic to the TowerFeed family of automatic sheet feeders and is used throughout this manual. TowerFeed has this model number scheme:

TowerFeed 444/xx.65.yy

Version

01 =	International (A4 trays, European power cable)
04 =	USA (US Letter trays, US power cable)
05 =	Switzerland (A4 trays, Swiss power cable)

Printer Model

65 = HP LaserJet 9000 Series

Configuration

44 =	floor model with 4 trays (4x500 sheets)
66 =	floor model with 6 trays (6x500 sheets)

For example: TF 444/44.65.01 is an international version with 4 DIN A4 paper trays & European power cable.

A plate showing type and designation and the serial number are located besides the power inlet of your TowerFeed. Please refer to this designation and the serial number whenever you call your service organization.

> Rutishauser Data AG, Switzerland, reserves the right to make changes to its products or services without prior notice and without incurring any obligations to incorporate such changes in units or publications shipped.
> **Rutishauser shall in no event be liable for incidental or consequential damages arising from the use of its equipment.**

> **Note:**
> Prior to delivery your TowerFeed was thoroughly tested and carefully packaged.
> Please check your unit for transportation damage and/or missing parts immediately upon receipt.

Box Contents

- TowerFeed unit with trays

- Accessories box

- Stand for the 3000-sheet output stacker (optional and only for 4-tray unit; the optional stand for 6-tray unit is shipped in a separate box)

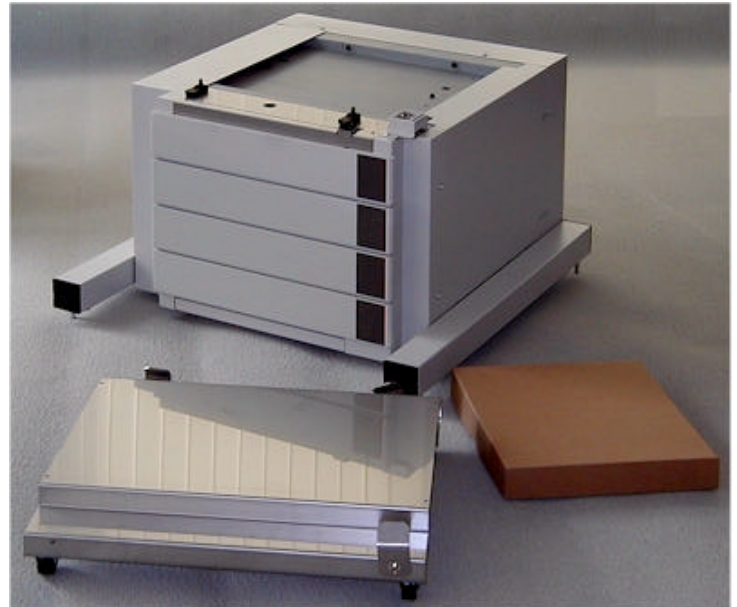Fig. 1   Box Content (incl. optional stand for 3000-sheet stacker)

Accessories Box Contents

- TowerFeed User's Manual (this manual)

- Power cable

- Rollers for TowerFeed

- PPCA (Paper Path Connection Assembly)

- 3 roller clamps with screws and washers, and Allen key 4mm (optional, comes only with stand for 4-tray TowerFeed)

Fig. 2   Accessories Box Content (incl. mounting kit for optional stand)

UNPACKING

> **Note:**
> Prior to delivery your TowerFeed was thoroughly tested and carefully packaged. Please check your unit for transportation damage and/or missing parts immediately upon receipt.

It is advisable to get a second person to help you unpack the unit.

> **Warning:**
> TowerFeed weighs up to 60 kilograms (130 pounds) depending on configuration. Enlist the help of a second person to lift and place the printer. To prevent back strain or injury, bend your knees when lifting the unit.

Unpacking the TowerFeed unit

- Cut the packing strips and remove the top of the shipping container.

- Remove the two blue shock absorbers and the accessories box from the top of the unit (Fig. 3).

- If TowerFeed is delivered with the optional stand for the 4-tray unit, remove the stand that is packed in front of TowerFeed (Fig. 4).

- Enlist the help of another person and carefully lift TowerFeed out of the container (Fig. 5).

- Remove the stretched plastic from TowerFeed. Be careful to not scratch the unit when using a cutting tool.

- Insert the 4 rollers (from the accessories box) with some force onto the roller shafts of TowerFeed. They will snap into position with a noticeable click. Insert the 2 stoppable rollers on the left side (Fig. 7a) and the 2 non-stoppable ones on the right side of the unit (Fig. 7b).

> **Note:**
> When turning TowerFeed over on a side or its back, be careful to not scratch its housing. Use a piece of cardboard or the like to prevent the unit from scratches.

- Remove the transportation inserts in the TowerFeed trays (as described in INSTALLATION)

> **Important:**
> It is recommended to keep the packaging material and inserts for proper protection of the unit and its parts in case of reshipment.

Fig. 3

Fig. 4

Fig. 5

Fig. 6

Fig. 7
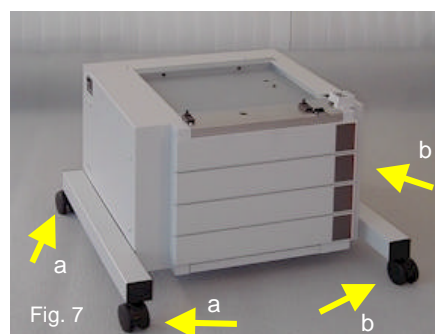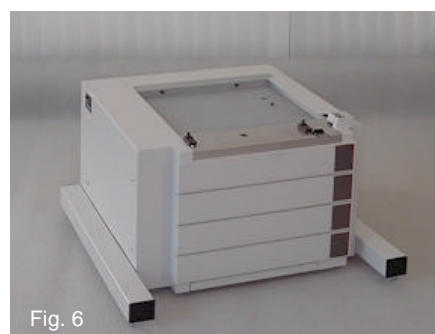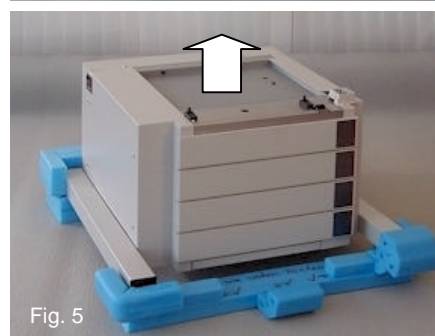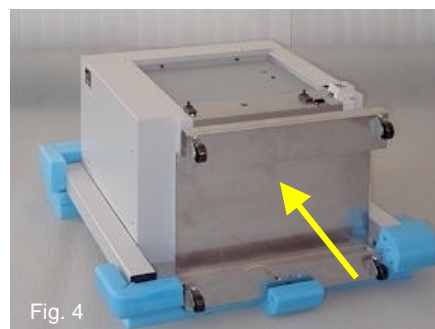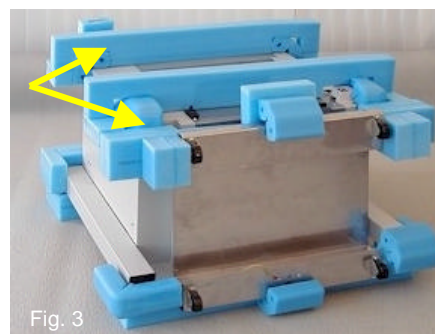
Re-Packing the TowerFeed unit

To re-pack TowerFeed, proceed as follows (reverse order of steps for unpacking the unit):

- Remove the trays and insert the transportation inserts as shown in Fig. 10 to secure the trays for shipping (it is important to secure the trays to avoid possible shipping damage).

- Remove the PPCA (Paper Path Connection Assembly from inside the printer, Fig. 11) and pack it into the accessories box (Fig. 2).

- Remove the 4 Rollers from the TowerFeed unit and pack them into the accessories box (Fig. 7).

- Place the shock absorbers on the bottom of the shipping container (Fig. 5).

- Stretch-wrap TowerFeed to prevent the trays to open during shipping.

- Enlist the help of another person to place the TowerFeed unit inside the box. Ensure that the unit is correctly seated and cushioned (Fig. 5).

- If part of the shipment, also include the optional stand (Fig. 4).

- Be sure that all accessories including the PPCA, user manual, rollers and power cable are packed in the box (Fig. 2).

- Add the blue shock absorbers on the top. Make sure that the stand is correctly seated and held between bottom and top absorbers (Fig. 3, Fig. 8).

- Fix the accessories box with content on top of TowerFeed with a tape (Fig. 8).

- Close the container.

Caution:
For reshipping TowerFeed you must use the original packing to avoid shipping damage of the unit.
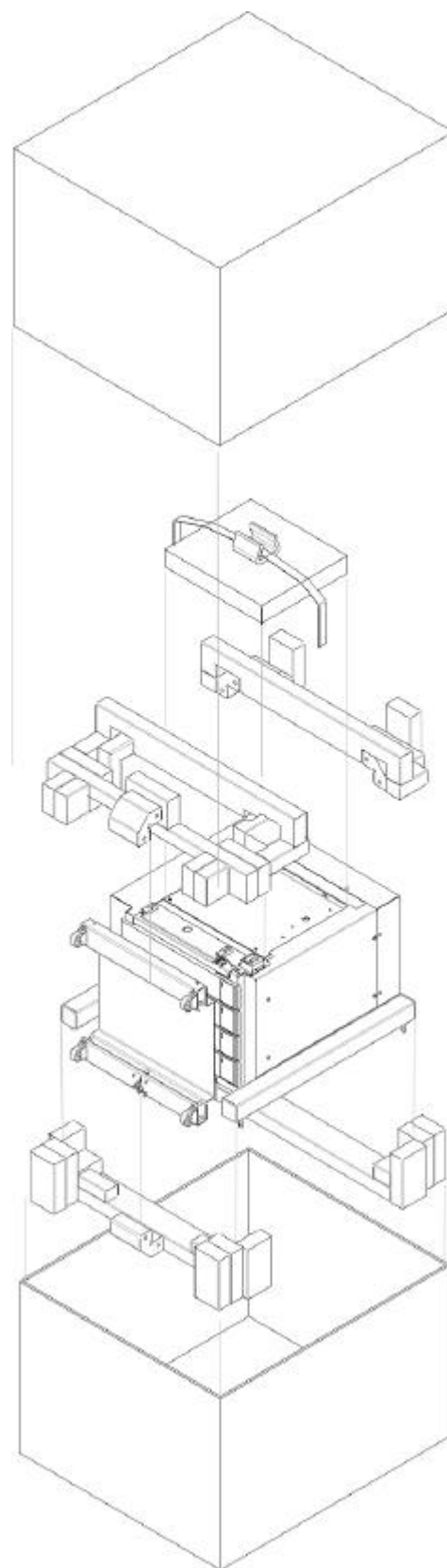
Fig. 8   TowerFeed Packing

INSTALLATION

Hardware Installation

> **Warning**:
> POWER OFF your printer and disconnect all power and interface cables before installing and/or servicing TowerFeed.

Positioning the Printer

- Place the TowerFeed unit at the location you wish. Be sure to place it on a flat location.

- Carefully put the printer unit onto TowerFeed. Rear, left and right fronts of the printer are aligned with the TowerFeed fronts. The positioning holes of the printer will match with the positioning pegs of the TowerFeed top (Fig. 9).

> **Warning**:
>
> **1.** The printer weighs up to 60 kilograms (130 pounds). Enlist the help of a second person to lift the unit. To prevent back strain or injury, bend your knees when lifting the unit.
>
> **2.** To lift the printer, use the handholds of the printer. When lowering the printer, be careful to not damage the electrical connector or the gearing interface of TowerFeed (Fig. 9).

> **Caution:**
>
> When rolling TowerFeed and printer to another place, watch out when crossing doorsteps to not have the unit tipping over or TowerFeed trays sliding open.

Fig. 9   Positioning the printer on TowerFeed

Removing the Trays Transportation Inserts

For shipping, the bottom plate of the TowerFeed tray is secured with transportation inserts. These have to be removed before loading the trays.

- Pull out, lift upwards and pull out the trays from TowerFeed. Remove the transportation inserts (Fig. 10). There are two at each side (please keep the inserts for eventual later re-shipment).

- Re-insert and close the trays.

> **Note:**
> In the right side plate of the tray you will find white coding pins for the respective paper size. These are set by the factory and must not be changed.
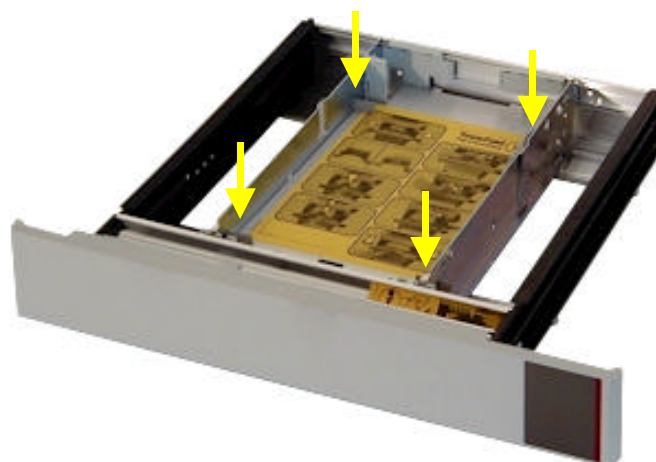
Fig. 10   TowerFeed tray with transportation inserts

Installing the PPCA in the Printer

The PPCA (Paper Path Connection Assembly, Fig. 11) from the accessories box has to be installed in the printer to guide and transport the paper delivered from TowerFeed inside the printer.

- Open the right side cover of the printer.

- Take the PPCA - with the black rollers towards you and the gearing to the right - and retract the gray sliders with the metal bolts.

- Slide the PPCA into the gap behind the right side cover of the printer and release the sliders to let the bolts snap into position (Fig. 12).

Fig. 11   PPCA
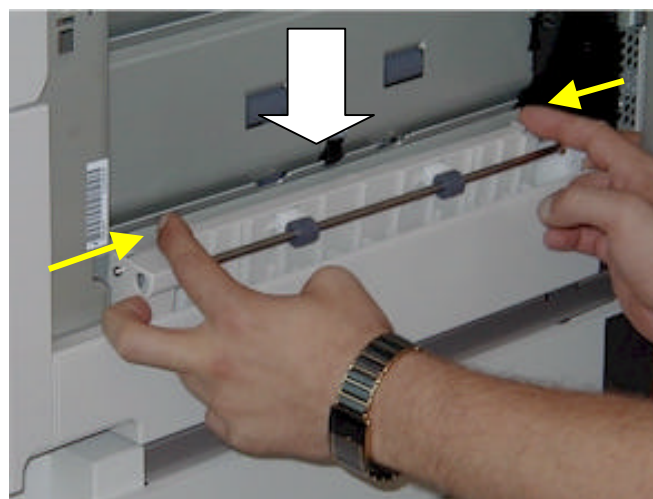
Fig. 12   Installing the PPCA in the printer

INSTALLATION

Assembling Stand and 3000-sheet Output Stacker (optional)

Required Tools
The following list shows the tools that are required to prepare and assemble the stand with the 3000-sheet output stacker option:

- Allan key 4mm (included in the accessories box, Fig. 2)
- Torx hexagon key X20
- Fork wrench 10mm or monkey wrench (2 pieces)

> **Note:**
> The required Torx key and fork / monkey wrenches are not part of the product shipment and must be obtained locally.

Preparation of the Output Stacker
The guiding bar has to be moved from the stacker to the stand. For that purpose proceed at follows:

- Remove the Torx screw fixing the grounding cable from the stacker to the guiding bar (Fig. 13a). This screw will be used later on again.
- Loosen and remove the hexagonal "swivel"-bolt screw with nut holding the guiding bar (Fig. 14b) to the stacker (Fig. 13b). That guiding bar will be remounted with screw and nut to the stand.

Preparation of the Stand

- Mount the guiding bar to the stand using hexagonal screw and nut (Fig. 14a, Fig. 15a).
- Attach the yellow-green grounding cable from the stand to the guiding bar using the Torx screw from the output stacker (Fig. 15b).

Mounting the Output Stacker onto the Stand

- Put the stacker onto the stand so that its rollers rest on the lower level of the stand. Make sure that the rear right stacker roller sits between the positioning bolts as shown in Fig. 16. That figure also shows a roller clamp with screw and washer from the accessories box.
- Mount two roller clamps to the stand (on the side of the guiding bar) and fasten them tightly to keep the stacker rollers in place (Fig. 17).
- Mount the third roller clamp loosely to the stand (Fig. 21). It will be fastened after the height adjustment of the output stacker has been done.
- Attach the grounding cable of the stacker to the stand using the pre-mounted screw (Fig. 15c).

> **Caution:**
> When removing the output stacker from the stand in a later point in time, do not forget to detach the stacker grounding cable from the stand!

Fig. 13

Fig. 14

Fig. 15

Fig. 16

Fig. 17
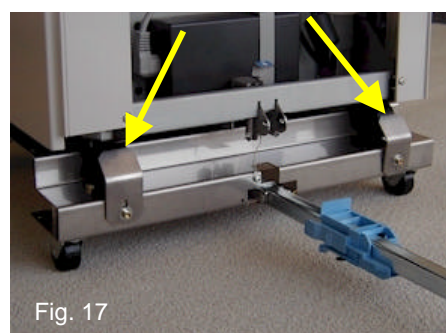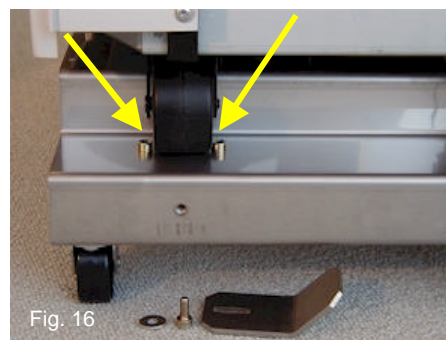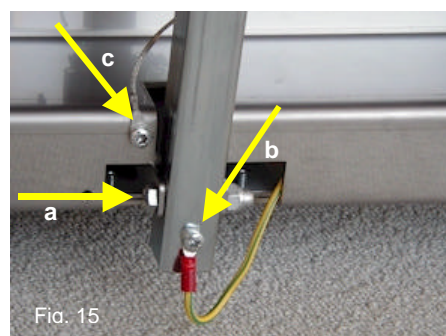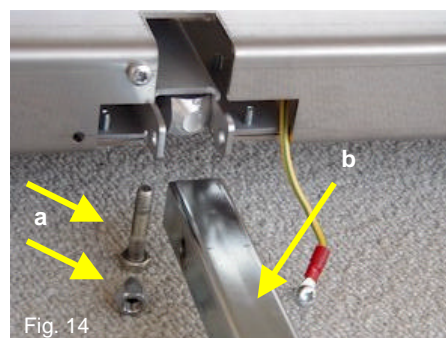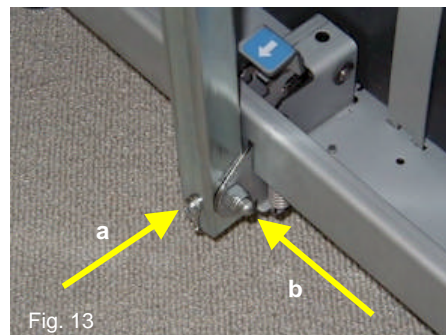
Blocking (De-blocking) the Guiding Bar in horizontal position

The stand has a provision for blocking the guiding bar so that the output stacker, after being pulled back from the printer for jam removal, can be pushed back easily and without risk to tip over.

- To activate the blocking mechanism, push the bolt into the guiding bar and fix it in position with the knurled screw (Fig. 18).

Fig. 18
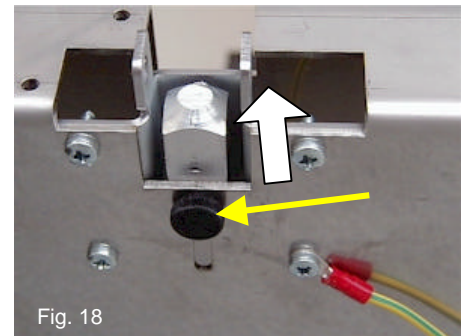
Attaching the Output Stacker to the Printer

- Insert the guiding bar of the stand into the guide holder that is on the rear lower side of TowerFeed (Fig. 19).

Fig. 19
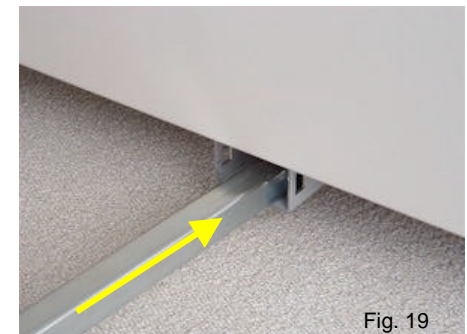
- Slide-in the blue plastics guide until it snaps into position (Fig. 20).

Fig. 20
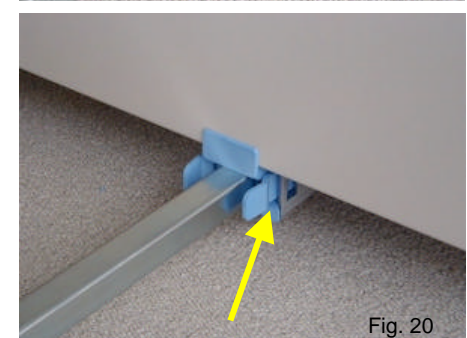
- Push the stand with the output stacker towards the printer system until the stacker's spring-loaded hooks snap into the printer's cutouts.
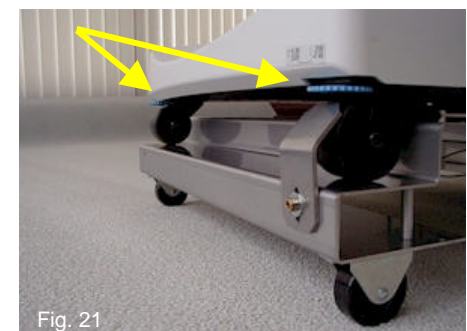
Fig. 21

- Adjust the output stacker inclination using the two blue adjustment wheels of the outside stacker rollers (Fig. 21, Fig. 22a+b) until the output stacker is parallel to the printer (Fig. 22c)

- Adjust clamp and tighten its screw (Fig. 22d)

d
Fig. 22
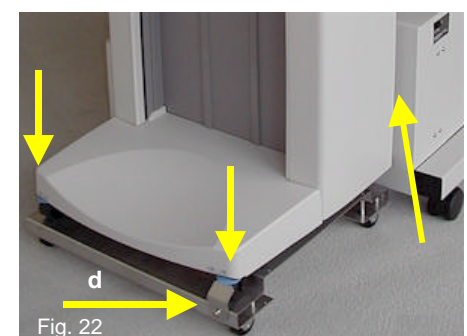
INSTALLATION

Electrical Connections

Now that TowerFeed and printer are mechanically assembled, the units have to be connected electrically to each other.

- Connect the power cables to printer and TowerFeed (Fig. 23a, Fig. 23b).

When installing the optional 3000-sheet output stacker as well, power and data cable have to be connected too:

- the (short) data cable of the output stacker plugs into the ACCESSORY connector of the printer(Fig. 23c).

The (long) power cable of the output stacker cannot be plugged into a regular power plug. Here are two alternatives:

- Use a regular appliance cable* to extend the (long) power cable of the output stacker to connect it with a wall plug.

- Use the HP PowerBox* (C4781-60500, Fig. 24a) with one regular power cable (to connect to the wall plug) and 2+1 connectors for the connection of printer, TowerFeed and output option (Fig. 24b, c, d).
  * additional appliance cable and HP PowerBox are not part of the shipment

Now the system is ready to be powered on.

Power-on TowerFeed first and then the printer. That will ensure that TowerFeed is ready when the printer is booting and looking for the installed peripheral options.

Fig. 23

Fig. 24

> **Note:**
> When powering on the system, power on TowerFeed **FIRST** and then the printer.
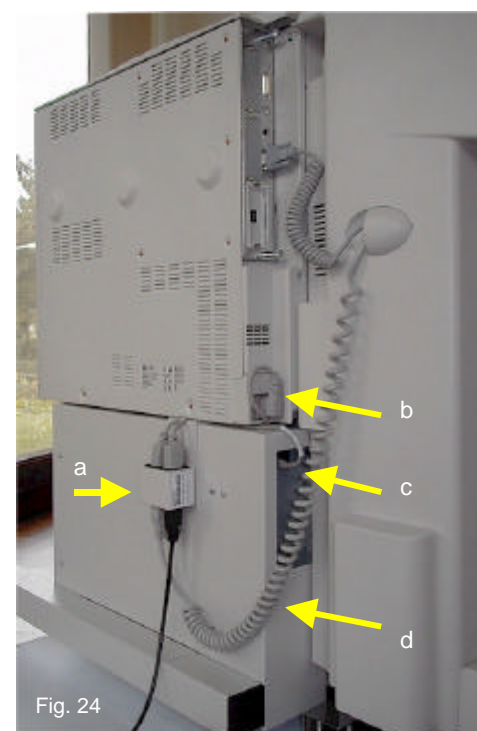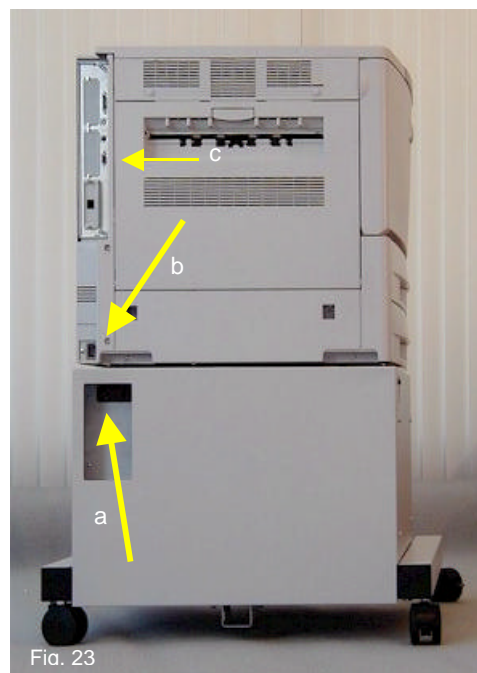
> **Caution:**
> When moving the printer system to another place, detach the output stacker from printer and TowerFeed and watch out when crossing doorsteps to not have the unit tipping over or TowerFeed trays sliding open.

Printer Panel Settings

The following steps require the printer system to be powered on. When powering on the system, always power on TowerFeed first and then the printer.

Paper Size Assignment
The TowerFeed trays are coded according to their size. At boot time, the printer automatically recognizes the trays with their sizes.

Paper Type Assignment
Initially, the printer assigns PLAIN to each paper tray as its default paper type. (The paper type is being used to let the printer distinguish between trays with same paper size but different media.)

In case of a paper out in a selected tray, the printer will automatically pull paper from another tray with the same paper size and the same paper type. Assigning a different paper type to each tray inhibits the automatic switching to another tray if the selected tray runs out of paper.
If you have several trays with the same paper, assign to each of these trays the same paper type. This will increase your input capacity for this paper type, as the printer will automatically switch to the next tray with the same paper type in case the selected tray runs out of paper.

To assign a paper type to an input tray, proceed as follows:

- move with Ö and the arrow keys to the PAPER HANDLING menu and select it with Ö
- move with the arrow keys to the TRAY X TYPE, e.g. TRAY 4 TYPE and select it with Ö
  (the printer will show here e.g. TRAY 4 TYPE = PLAIN)
- move with the arrow keys to another of the list of 10 predefined paper types, e.g. BOND and select it with Ö

This assigns the paper type BOND to TRAY 4 of the system.

Proceed the same way for all the other trays in the menu to change their type assignment to a unique paper type as well.

Note 1: We recommend to assign to each of the paper trays a unique paper type to avoid automatic switching to another tray in case of a paper out condition.

Note 2: PLAIN is the default paper type. In case a print job arrives without paper selection, the printer will pull paper from the first tray containing PLAIN paper (e.g. printer test pages).

Note 3: Be aware that the printer might apply processing constraints to certain paper types, e.g. CARDSTOCK or TRANSPARENCY will not be duplexed and/or output to the 3000-sheet stacker.

For further information please also refer to APPENDIX C – Tips & Hints.

INSTALLATION

Software Installation

Installing the Printer Driver

Install the printer drivers delivered with your HP LaserJet as usual. In case of questions please refer to your printer's manual or contact your dealer.

Configuring the TowerFeed Option

The TowerFeed option has to be activated in the printer driver. To do so, go via *Start – Settings – Printers* to select the respective HP LaserJet driver.

In Windows 9x get via printer *Properties* - tab sheet *Configure* to the pull-down bar of the *Optional Papersources:* where you will see two TowerFeed models:
- 4x500-sheet TowerFeed 44, and
- 6x500-sheet TowerFeed 66.

Select the respective TowerFeed model.
The additional paper trays now will show up in the pull-down windows for the *Paper Sources:.*

In Windows NT you assign in *Properties – Device Settings* to each of the trays the respective paper size.

Paper Selection

In the application programs you select the paper sources in the Page Setup function (*File - Page Setup*), where all available paper sources show up in the respective *Paper Sources:* pull-down bar(s).

Hint:
The most recent printer drivers can be downloaded from the HP WEB site (http//:www.hp.com) or from our WEB page at http://www.rutishauser.ch/ti/sdlhp.htm.

Note:
More information and details on paper selection possibilities are described in APPENDIX B – Tips & Hints of this manual.

Operating

Loading Paper

- Pull open the tray you wish to load until it reaches the stop or remove it completely for more convenient loading.

- Make sure that the right paper guide is in the LOAD position by firmly pushing it to its right stop.

- Obtain a fresh ream of paper. Hold the ream on the long edge and bend it in and out. Repeat on the short edge. Square it off properly (Fig. 25).

- Insert approx. one third of the ream in the tray and ensure that all paper is lined up nicely. Repeat that two more times to fill the tray.

- Load the paper face down, with its top edge towards the right (DIN A4 and US Letter size, long edge feeding LEF).

- Push down the stack, such that all sheets are under the separation corners (Fig. 26).

- Push the right paper guide with its separation corner tab to the left to ensure proper guiding of the stock (Fig. 27). There should be no gap between the paper guide and the stock.

- Push down on the paper stack a few times. The paper must move up and down freely.

- Close the tray. Repeat the procedure for all trays to be loaded.

> **Note 1:** The right paper guide can be adjusted within approx. ± 1mm (± .04") by pushing the separation corner tab to the left and right (FEED and LOAD) position as indicated on the yellow label the tray (Fig. 27).
>
> **Note 2:** A gap between the right paper guide and the stock can lead to unreliable feeding and jams inside the tray. The adjustment of the right paper guide as described above is mandatory to ensure reliable feeding.
>
> **Note 3:** For duplex printing the paper is loaded face up. *A second tray eliminates the need to reload the paper when using the same paper for both simplex and duplex printing.*
>
> **Note 4:** The tray loading capacity for 80 g/m^2 paper is 500 sheets. Overloading the tray may lead to paper jams.

Fig. 25   Fanning the Paper

Fig. 26   Filling in Paper

Fig. 27   Correct Paper Loading

OPERATING

Marking a tray with its Paper Type

As each tray typically contains a different paper type, an indication on the tray itself about the paper type loaded is helpful particularly when re-loading the tray after a paper out condition. For that purpose a paper sample can be mounted in the bow profile of the tray to clearly identify the paper that is used in that tray.

> **Hint:**
> For your convenience, you may insert a sample piece (about 1 inch/28 mm) of the loaded paper type into the extrusion as a reference when reloading the tray (Fig. 28).

Stock Type
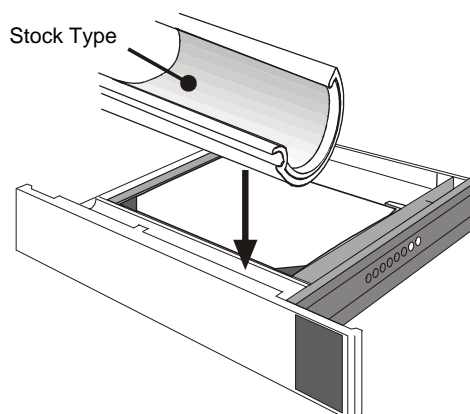
Fig. 28   Marking the Tray

Paper Tray empty

TRAY n EMPTY Media Type & Size	alternating with	READY

This message indicates an empty paper tray. Refill the depleted tray.
While feeding occurs from a higher tray, lower ones may be reloaded without interrupting feeding and printing.

Paper Tray depleted during Print Job

LOAD TRAY n Media Type & Size	(n = tray number)

This message appears if the selected tray runs out of paper (and if there is no other tray with the same paper size and type, depending of the printer settings.)
If a tray runs out of paper, the printer will automatically switch to another tray with the same paper type and size and pull paper from there. Otherwise it displays that message, the Attention LED starts blinking, and most probably a respective error message appears at the user screen (depending on the application).
Refill the tray with the correct paper. After closing the tray, the printer will resume printing.

Requested Paper missing

LOAD TRAY 1 Media Type & Size

This message indicates that the requested paper is not available, either because the print job explicitly asks for paper from tray 1, or because it asks for paper from a tray where size and type do not correspond with the document page settings.
Load tray 1 with the requested paper or crosscheck the settings for the document (*Page Setup ...*).

Paper Jam

In case of a paper jam, the printer panel Attention LED will start blinking and the printer display will show a respective message with the following meaning:

> 13.03.xx PAPER JAM   Paper jam in printer
> 13.11.xx PAPER JAM   Paper jam in TowerFeed

•   In case of a **printer paper jam**, you will see the following message:

> | 13.03.00   JAM INSIDE |
> | RIGHT DOOR |

Remove the paper jam and all other pages in the paper path and close all the cover(s). Printing will continue. For more details on clearing printer paper jams please refer to your printer manual (Chapter Maintenance and Trouble Shooting, Section Paper Jams).

•   In case of a **TowerFeed paper error**, the printer will display one of the following messages and TowerFeed will beep in a certain sequence, depending on the type of error:

| 13.11. **2** x   JAM IN |
| INPUT ACCESSORY |

Cause: TowerFeed motor blocked

TowerFeed beeping: ■▬ ■▬ ■▬ .... (short - long cont.)

| 13.11. **3** x   JAM IN |
| INPUT ACCESSORY |

Cause: Paper jam inside TowerFeed

TowerFeed beeping: ▬▬ ▬▬ ▬▬ .... (long - long cont.)

| 13.11. **4** x   JAM IN |
| INPUT ACCESSORY |

Cause: TowerFeed tray opened while feeding

TowerFeed beeping: ■ ■ ■ ■ ■ ■   (6 short beeps)

* x = TF tray number (not system tray number)

Open the TowerFeed tray (the beeping stops when opening the tray that fed the last sheet), remove the jammed paper and close again all TowerFeed trays. Printing will continue automatically.

In case the printer could not automatically eject the remaining paper inside the printer, open the printer cover(s) and clear the paper path. Close the printer cover(s) to have the printer resume the print job.

APPENDIX A - Printer Specific Notes

Printer Firmware Revision

The Firmware of your HP LaserJet printer must be at least Revision 02.000.0 or higher to correctly support the TowerFeed option. In case your printer does have an older Firmware, ask your dealer for a Firmware upgrade.

Printer Driver Revision

Please use the drivers received with your printer.
For the most recent driver revisions contact your dealer or consult the HP WEB or the Rutishauser WEB site at http://www.rutishauser.ch/ti/sdlhp.htm.

HP LaserJet Duplexer Option

With the TowerFeed paper handling option installed, the printer's duplexing capabilities remain fully supported.

Optional HP 2000-sheet HCI Option

TowerFeed is used in place of this option and therefore, it cannot be installed together with TowerFeed.

Optional HP 3000-sheet output Stackers

This output stacker can be installed to a printer system with TowerFeed option when using the optional stand from Rutishauser to compensate for the height difference of the units.

Other optional Devices

Besides of the HP 3000-sheet output options, no other 3rd party peripheral devices were tested together with the TowerFeed option installed. Therefore, such other devices would need to be tested first for their compliance and compatibility prior to their installation on a printer system with TowerFeed.

Frequently used PCL commands for Paper Selection:

Command	function	# refers to	HP LaserJet 9000
ESC & l # H	Selects Paper Source	0 1 2 3 4 5 6 7 8 20 21 22 23 24 25 *NA with TowerFeed installed	print/eject page Tray 2 Manual Feed - Paper Manual Feed - Envelope Tray 4 (2000-Sheet Input Tray*) Tray 3 Envelope Feeder Auto Select Tray 1 Tray 4 (TowerFeed Tray 1) Tray 5 (TowerFeed Tray 2) Tray 6 (TowerFeed Tray 3) Tray 7 (TowerFeed Tray 4) Tray 8 (TowerFeed Tray 5) Tray 9 (TowerFeed Tray 6)
ESC & l # A	Selects Paper Size	2 = Letter 3 = Legal 6 = 11 in x 17 in 26 = A4 27 = A3 101 = Custom size For other sizes please refer to your printer manual	
ESC & n # Wd mediatype	Selects Paper Type	(see table below)	

#	mediatype	Panel Display**
6	Plain	PLAIN
11	Preprinted	PREPRINTD
11	Letterhead	LTRHEAD
13	Transparency	TRNSPRNCY
11	Prepunched	PREPUNCHD
5	Bond	BOND
9	Recycled	RECYCLED
6	Color	COLOR
11	Cardstock	CARDSTOCK
6	Rough	ROUGH

**indication for reference purposes only

APPENDIX C - Tips & Hints

Power ON Sequence
Power On TowerFeed first!
When powering on the printer, it will scan its option bus for available options. In case TowerFeed is not ready at that point of time, the printer will not activate its support and not add this option to its configuration.

Printing on the wrong Paper
Why doesn't it print from the tray I selected?
If a selected Tray # does not contain the paper size assigned for the print job, the printer might look for other trays containing the demanded paper size, and if this is available (and with the same Paper Type as Tray #), it will pull paper from there.

The 3 Rules for Correct Paper Selection

1. **Assign a different Paper Type to every Tray # by using the printers control panel.**
   You may assign the same Paper Type to two or more tray numbers only if these trays all contain the same Paper Type.

2. **Make sure that you select the correct Paper Size for the selected Tray #.**
   The selected Paper Size in the application software must be the same as the size of the selected Tray #.

3. **Select paper within your application by Paper Type or by Tray #.**
   If a tray containing the selected Paper Type runs out of paper, the printer will pull paper from another tray only if it has the same paper Size and Type.

Paper Control and Selection

Selection Criteria
The HP LaserJet offers various possibilities to select paper by offering three selection parameters:
• Paper Size
• Paper Source (Tray number)
• Paper Type
The selection criteria differ in their priorities and can be changed using the respective printer utility software.

Paper Types
The Paper Type is a selection criteria which can be used to name trays and to distinguish between different paper types within a given paper size. The HP LaserJet offers 10 predefined Paper Types: Bond, Cardstock, Color, Letterhead, Plain, Preprinted, Prepunched, Recycled, Rough and Transparency.

Default Paper Type
Without a specific paper type assigned to a tray, PLAIN becomes the default paper type. Without a specific paper source selection in a document, the printer will pull paper from a paper source with the paper type PLAIN.

Assigning a Paper Type to a Tray
Please refer to the section *INSTALLATION – Printer Panel Settings – Paper Type Assignment* of this manual or to the printer's manual for more details on how to assign a paper type to a tray.

Standard Applications: Where to select Paper Size and Paper Type

Here is the information on where to set the paper selection parameters in the most common standard applications.

- MS-WORD: File - Page Setup – Paper Size   Paper Size:
              Paper Source   First Page:
                                      Other Pages:

- EXCEL: File - Print - Properties - Paper   Size is:
                                        Source is:
                                        Type is:

            File - Page Setup - Page   Paper Size:
                        Page - Options - Paper   Size is:
                                        Source is:
                                        Type is:

- WRITE: File - Print - Setup   Paper Size:
                                      Paper Source:

Apple Macintosh Environment

This information was not yet available at printing time.

Please refer to our web page at http://www.rutishauser.ch/ti/sdlhp.htm for the most recent software support information.

APPENDIX D – Paper Quality Guidelines

General

These paper quality guidelines are general recommendations. Paper beyond these specifications may work as well, however it should be tested before use. Paper is a material that reacts intensively to adverse temperature and humidity conditions. The observance of proper conditions as defined below is therefore essential for trouble-free operation of TowerFeed. Please also refer to the corresponding guidelines in the printer manual.

Paper Quality and Surface

Bond type papers and papers with slight rag content are recommended. For papers with high rag content, as well as very light and air mail papers, feeding tests must be conducted to check for satisfactory performance before regular use. Paper with embossed or heavy printing should be tested in TowerFeed before use, as well. Papers with glossy or structured surface are not recommended. Individual sheets in a stack must not be damaged, warped more than 3 mm (0. 12") at an angle of max. 20° or creased, since all these may reduce the feeding performance.

Paper Weight

The specified paperweight is 60 - 95 g / m^2 (16 - 24 lb.). Other paperweights must be tested before use.

Tolerance

Paper must be cut to the appropriate size dimension within a tolerance of $\pm$ 1.0 mm ($\pm$0.04"). The paper stack must be cut square to within a tolerance of 90° $\pm$0.1°.

Recommended Storage Environment

Temperature: 18°C - 24°C (64°F - 75°F)

Relative humidity: 40% - 60%

Diagnosing an Error Situation

When calling for support, please have the printer test pages at hand (Configuration Page, Menu Map and Event Log Page as per APPENDIX F).

Pos	LED	Printer Display	TF Beeping	Description	Action / Remarks
1	OFF	TRAY n OPEN alternating with READY	NO	Tray n open	Close Tray
2	OFF	TRAY n EMPTY Media Type & Size alternating with READY	NO	Empty Tray without pending print request	Reload tray n
3	ON	LOAD TRAY 1 Media Type & Size	NO	Requested paper not available	Load Tray 1 with the correct size. Also refer to section INSTALLATION – 'Printer Panel Settings' in this manual and to your printer manual for further details on how to change media Size and Type through the printer control panel.
4	ON	LOAD TRAY n Media Type & Size	NO	Paper requested from empty Tray n	Refill Tray n. The printer witches automatically to the next tray with the same media Size & Type and pulls paper from there (depending on printer settings).
5	ON	13.03.00 JAM INSIDE RIGHT DOOR	NO	Paper jam in Printer	Clear paper jam and all other sheets from the paper path. Open/close printer cover(s). Also refer to section 'OPERATING - 'Paper Jam' in this manual and to your printer manual for further details.

continued ...

For TF Beeping Sequences (TF Beep Types) see next page.
For other error messages on the printer panel display please refer to your printer manual.

APPENDIX E - Troubleshooting

Diagnosing an Error Situation (cont.)

When calling for support, please have the printer test pages at hand (Configuration Page, Menu Map and Event Log Page as per APPENDIX F).

Pos	LED	Printer Display	TF Beeping	Description	Action / Remarks
6	ON	13.11.2x JAM IN INPUT ACCESSORY	Beep Type 2	TowerFeed Motor blocked (x = TF tray which fed the last sheet)	Open TF Tray(s). Remove all sheets from the TF paper path. Close TF Tray(s). In case the error stays, call Service.
7	ON	13.11.3x JAM IN INPUT ACCESSORY	Beep Type 3	Paper jam in TowerFeed (x = TF tray which fed the last sheet)	Clear paper jam in TF. Close TF Tray(s).
8	ON	13.11.4x JAM IN INPUT ACCESSORY	Beep Type 4	TowerFeed tray opened during feeding cycle (x = TF tray which fed the last sheet)	Remove paper from the TF paper path. Close TF Tray(s).

For TF Beeping Sequences (TF Beep Types) see below.
For other error messages on the printer panel display please refer to your printer manual.

TowerFeed Beep Types

Type 0 (1x short)	■	TowerFeed Reset Beep (e.g. after Power ON)
Type 1 (short – short)	■ ■ ■ ■ ■ ■ ■ ■	Paper in TowerFeed paper path after a printer Reset, or paper-out in TowerFeed tray
Type 2 (short – long)	■ █ ■ █ ■ █	TowerFeed Motor blocked
Type 3 (long – long)	█ █ █	Paper Jam in TowerFeed
Type 4 (6x short)	■ ■ ■ ■ ■ ■	Opening a TowerFeed tray during a feed cycle

The printer allows printing out information about its system configuration. These pages can be selected via the printer panel (Item: INFORMATION MENU).

> **Note:**
> The informations for the Configuration Page are recorded at power-up time. There is no update of the changes after power-up.

Configuration Page (Sample printout on page 23)

This page will be printed via the printer panel (INFORMATION - PRINT CONFIGURATION, or enter "22" on the numeric keypad. Of particular interest are the indications under Paper Trays and Options and Event Log:

Paper Trays and Options
- Device 1: RUTISHAUSER TOWERFEED option with configuration, Firmware Revision of Option PCB/Logic PCB, installed trays with tray capacity (80 g/m2 paper)

Event Log
shows the last three system errors, incl. TowerFeed errors.

TF Error Codes 13.11.**xx**	1**	2**	3**	4**	5**	6**
TowerFeed Motor blocked	.15	.16	.17	.18	.19	.1A
TowerFeed Paper Jam	.1F	.20	.21	.22	.23	.24
Tray opened while feeding	.29	.2A	.2B	.2C	.2D	.2E

** Number of TowerFeed tray (not printer tray) which fed the last sheet

Menu Map (Sample printout on page 24)

The Menu Map page can be selected via the printer panel (INFORMATION - PRINT MENU MAP, or enter "21" on the numeric keypad). This page is showing on page 1 (and 2), item 3 PAPER HANDLING the different paper sources and its allocated Media Types (TRAY x SIZE = ... and TRAY x TYPE = ...).

PAPER HANDLING
showing paper sources (trays) with SIZE and paper TYPE, e.g.
TRAY 4   SIZE = A4
TRAY 4   TYPE = PREPRINTED

Paper Path Test (Sample printout on page 25)

The printer's paper path test allows to perform feeding tests from the different input trays to the output bin(s). It can be selected via the printer panel (CONFIGURE DEVICE – DIAGNOSTICS – SET PAPER PATH TEST) where you can set Source, Destination, Duplex and Copies before releasing the printing of the Test Page. The printout shows all the available input trays with their respective paper sizes and the output bins of the system.

Event Log

You can also print the Event Log (CONFIGURE DEVICE – DIAGNOSTICS – PRINT EVENT LOG). It shows the last 50 system errors (the Configuration Page only shows the last 3 errors occurred. Very helpful for diagnosing purposes! (The error codes for TowerFeed and their meaning are indicated above (see Configuration Page).

> **Note:**
> Whenever calling for service, please make sure you have these information pages at hand.

hp LaserJet 9000 series printers

configuration page   1

Printer Information

Product Name: HP LaserJet 9000 Series
Printer Name: HP LaserJet 9000 Series
Printer Number: 15
Formatter Number: S4601900052G
Printer Serial Number: JPCDP00645
Firmware Datecode: 20010518 02.000.0
PS Wait Time-out: 300 seconds
Page Count: 3339
Preventive Maintenance Interval: 350000
Pages Since Last Maintenance: 2586

Memory

Total Memory: 64 MB
DWS: 26.44
Automatic Resource Saving Enabled

Event Log

Number of Entries in Use: 50
Maximum Number of Entries: 50
Last Three Entries:
Number Error   Page Count
  50   88 0000   3331
  49   13.11.17   3329
  48   13.11.28   3328

Security

Control Panel Lock: NONE
Control Panel Password: DISABLED
Write Protect: DISABLED

Installed Personalities and Options

PCL (20010402)
PS   (20010402)
PCLXL (20010402)
DIMM Slot 1:   Side 1: 8 MB Flash
                    Side 2: 8 MB Flash
DIMM Slot 2:   Side 1: 32 MB SDRAM
                    Side 2: 32 MB SDRAM
DIMM Slot 3: Empty
DIMM Slot 4: Empty
EIO 1: HP JetDirect J4169A
EIO 2: Empty
EIO 3: Empty
RAM DISK Storage: 12 MB Capacity

Paper Trays and Options

Default Paper Size: LETTER
Tray 1 (UNKNOWN)
Tray 2 (LETTER)
Tray 3 (A4)
Duplex Unit
Device 1:
RUTISHAUSER
TOWERFEED [1.03/1.06] 444.44.60.19
  Input Trays:
  1: TRAY 4. 500 Sheets
  2: TRAY 5. 500 Sheets
  3: TRAY 6. 500 Sheets
  4: TRAY 7. 500 Sheets
Device 2:
HEWLETT-PACKARD
HP 3000-SHEETS STACKER [010320] C8084A
  Output Bins:
  1: OPTIONAL BIN 1, 125 Sheets, Face Up
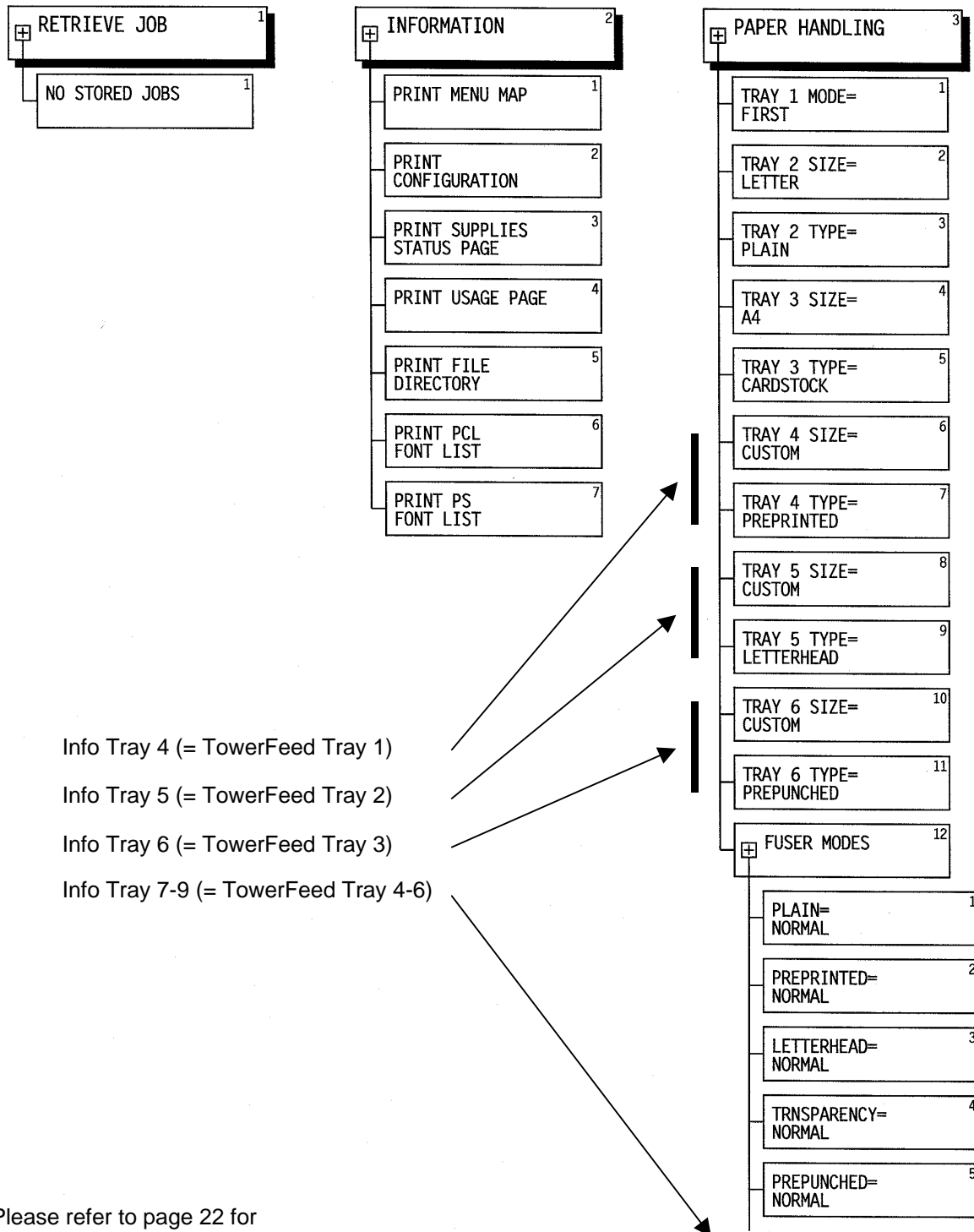 2: OPTIONAL BIN 2, 3000 Sheets, Face Down

Please refer to page 22 for more information on this page.

hp LaserJet 9000 series printers

menu map (common functions)   1

```
┌─⊞ RETRIEVE JOB        1│       ┌─⊞ INFORMATION          2│       ┌─⊞ PAPER HANDLING       3│
│                        │       │                         │       │                          │
└──┌─ NO STORED JOBS   1│       └──┌─ PRINT MENU MAP     1│       └──┌─ TRAY 1 MODE=       1│
      └──────────────────┘             └──────────────────┘             │  FIRST               │
                                                                        └──────────────────────┘
                                    ┌─ PRINT            2│             ┌─ TRAY 2 SIZE=       2│
                                    │  CONFIGURATION     │             │  LETTER              │
                                    └──────────────────┘             └──────────────────────┘

                                    ┌─ PRINT SUPPLIES   3│             ┌─ TRAY 2 TYPE=       3│
                                    │  STATUS PAGE       │             │  PLAIN               │
                                    └──────────────────┘             └──────────────────────┘

                                    ┌─ PRINT USAGE PAGE 4│             ┌─ TRAY 3 SIZE=       4│
                                    └──────────────────┘             │  A4                  │
                                                                        └──────────────────────┘
                                    ┌─ PRINT FILE       5│             ┌─ TRAY 3 TYPE=       5│
                                    │  DIRECTORY         │             │  CARDSTOCK           │
                                    └──────────────────┘             └──────────────────────┘

                                    ┌─ PRINT PCL        6│             ┌─ TRAY 4 SIZE=       6│
                                    │  FONT LIST         │             │  CUSTOM              │
                                    └──────────────────┘             └──────────────────────┘

                                    ┌─ PRINT PS         7│             ┌─ TRAY 4 TYPE=       7│
                                    │  FONT LIST         │             │  PREPRINTED          │
                                    └──────────────────┘             └──────────────────────┘
```

TRAY 5 SIZE= 8
CUSTOM

TRAY 5 TYPE= 9
LETTERHEAD

TRAY 6 SIZE= 10
CUSTOM

TRAY 6 TYPE= 11
PREPUNCHED

⊞ FUSER MODES 12

Info Tray 4 (= TowerFeed Tray 1)

Info Tray 5 (= TowerFeed Tray 2)

Info Tray 6 (= TowerFeed Tray 3)

Info Tray 7-9 (= TowerFeed Tray 4-6)

PLAIN= 1
NORMAL

PREPRINTED= 2
NORMAL

LETTERHEAD= 3
NORMAL

TRNSPARENCY= 4
NORMAL

PREPUNCHED= 5
NORMAL

Please refer to page 22 for
more information on this page.

Menu continued (1)

APPENDIX F – Printer Information Pages

hp LaserJet *9000 series printers*   (hp)

paper path test	copy 1 of 1

Source: Tray 2

Destination: STANDARD OUTPUT

Input Trays
 Tray 1 (UNKNOWN)
 Tray 2 (LETTER)
 Tray 3 (A4)
 Tray 4 (CUSTOM)
 Tray 5 (CUSTOM)
 Tray 6 (ANY)
 Tray 7 (CUSTOM)

Output Bins
 STANDARD OUTPUT
 OPTIONAL BIN 1
 OPTIONAL BIN 2

TowerFeed Selftest Feature

The TowerFeed selftest feature allows testing the TowerFeed unit independently from any printer and computer. With this test you can the paper-feeding behavior of the unit (horizontal position, skew, jam).

> **Note:**
> To perform a TowerFeed selftest with the printer on top of it, open the right side cover of the printer to access the media being fed from TowerFeed through the PPCA (Paper Path Connection Assembly).

To enter the TowerFeed selftest mode, proceed as follows

- Power-off TowerFeed.

- Open the printer's right side cover.

- Open all TowerFeed Trays (approx. 5 cm / 2" is sufficient).

- Power-on TowerFeed.

- Wait for the following actions to be completed:
  - activation of the solenoid (clicking) in each module
  - spinning of the motor (approx. 5 sec)
  - a short beep (TowerFeed Reset beep)

- Close the top-most TowerFeed tray. After a few seconds a sheet will be fed from this tray. You now can mark on the PPCA the position of the left edge of the sheet (reference for horizontal paper position).

- Pull out the sheet from its waiting position. TowerFeed will automatically feed a next sheet. You now can compare the (moving) position of the left edge of the next sheet. If it moves up straight in the same position, this is ok. In case the left edge position would be different, or moving from left to right (or vice-versa), this might indicate a problem in either the tray, the unit (module) or the paper loading.*

- To test the next lower tray, close that tray before removing the sheet from its waiting position. Now remove the waiting sheet and TowerFeed will feed a sheet from that next lower tray. (TowerFeed will always feed the next sheet from its lowest closed tray.)

To revert to normal operation, open the top-most TowerFeed tray, remove the waiting sheet and power-off TowerFeed. Close the right side cover and power on TowerFeed again with at least one tray closed. TowerFeed will respond with spinning the motor and a short 'Reset' beep. Now it is ready again in its normal operating mode.

* In case error conditions are showing up which are depending on a specific TowerFeed tray, you can swap trays to find out whether a problem exists with the tray itself or whether a specific module is the cause.

APPENDIX H – TowerFeed Specifications

Dimensions and Weights:	Model Designation	Width	Depth	Height	Weight
Floor Model with 4 trays	TF 444/44.65.	740 mm	725 mm	503 mm	45 kg
Floor Model with 6 trays	TF 444/66.65.	740 mm	725 mm	683 mm	58 kg

Paper Specifications:

Paperweight: 60 - 95 g/m^2 (16 - 24 lb.)

Note: Also consult the paper specifications for your printer.

Paper Trays:

Standard trays:

International, CH: DIN A4 Landscape (European Size)

USA: US Letter Landscape (8$^1/_2$" x 11")

Optional trays:

DIN A3 Portrait (European Size)

US Legal Portrait (8$^1/_2$" x 14")

US Ledger Portrait (11" x 17")

Tray capacity:

A4, Letter, Legal: Up to 500 sheets or a stack of 50 mm, whichever, depending on paperweight, is reached first.

A3, Ledger: Up to 250 sheets or a stack of 25 mm, whichever, depending on paperweight, is reached first.

Positioning accuracy:

For 80 g/m^2 bond type paper typically better than:

vertical: ± 2.0 mm (± 0.08")

horizontal: ± 2.0 mm (± 0.08")

skew: 2.5 mm (0.10")

Environmental conditions:

Temperature	Operating:	10°C to 32°C (50°F to 90°F)
	Storage:	-25°C to 50°C (-13°F to 122°F)

Relative humidity (non-condensing)	Operating:	25% to 80%
	Storage:	5% to 95%

Note: Please observe recommended storage conditions for paper (see 'Paper Quality Guidelines').

Power Requirements: 100 - 240 V~ +5% / -10%, 50-60 Hz, 1.5 A

Fuse Type: 3.15 A / 250 V slow (5x20mm)

TowerFeed does not require preventive maintenance. Cleaning of housing and removal of paper dust from within the TowerFeed trays might now and then be indicated.

Clean the outside of TowerFeed with a lightly water-dampened cloth. Do not use detergents to avoid damage of the surfaces.

To **clean the paper drawers** from paper dust, completely remove the drawers from TowerFeed, remove the paper and use a vacuum cleaner with a soft brush.

Warning: To avoid damage to the paper-out sensor arms do not reach into the openings for the paper drawers.

Notes:

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Rutishauser shall in no event be liable for incidental or consequential damages arising from the use of its equipment.

TowerFeed models are available for the following HP LaserJet printers:

TowerFeed 444 for the
HP LaserJet 4100 Series

TowerFeed 444 for the HP
Color LaserJet 4550 Series

TowerFeed 444 for the
HP LaserJet 9000 Series

TowerFeed 444 for the
HP LaserJet 8150 Series

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